In the claims:

Please amend the claims as follows:

1-10 (cancelled)

11. (currently amended) A quantum well based two-dimensional detector operative to detect incident infrared radiation falling upon a detector surface at various angles of incidence within a range of 0-45° in relation to a normal to the surface, the detector comprising:

a diffraction grating operative to diffract the incident radiation, the diffraction grating having a grating interval that varies from a central part of the detector out towards outer parts of the detector, such that the grating interval increases with increasing distance from the central part of the detector, wherein a variation in the grating interval at least contributes to retain in the detection diffracted rays of the orders 1 and -1 as active components across the detector surface by changing angle values of the diffracted rays depending upon angles of incidence of the radiation falling on the various parts of the detector surface.

12. (previously presented) The detector according to claim 11, wherein the grating interval varies linearly.

13. (previously presented) The detector according to claim 11, wherein the grating interval varies in steps.

14. (previously presented) The detector according to claim 11, wherein grating elements incorporated in the diffraction grating vary at least one of the configuration, size, or shape in a horizontal section of the diffraction grating.

15. (currently amended) The diffraction grating according to claim 14, wherein the grating elements are square at ~~a~~ the central part of the detector surface and change to rectangular shapes toward the outer parts of the detector surface.

16. (currently amended) The detector according to claim 11, wherein ~~an~~ the grating interval ~~of the grating elements~~ is selected such that a sensitivity of the detector is substantially similar over an entire surface of the detector.

17. (cancelled)

18. (currently amended) The detector according to claim 11, wherein the grating interval varies according to the formula:

$$d(x) = \frac{\lambda}{n - \sin \alpha_{0\,\max}(x)}$$

where λ is the wavelength, n is the diffraction index of the grating substrate and $\alpha_{0max}(x)$ is the maximum angle of incidence and is given by the formula:

$$\tan \alpha_{0\,\max}(x) = \frac{x + D/2}{S}$$

where x is a distance from a center of the detector, D is a diameter of an aperture and S is a distance between the aperture and an upper surface of the detector.

19. (currently amended) The detector according to claim 11, wherein the grating interval is selected by approximation of $\sin\alpha_{0max}(x)$ and $\tan\alpha_{0max}(x)$ by α_{0max} where the grating interval is given by

$$d(x) = \frac{\lambda}{n}\left(1 + \frac{D}{2nS} + \frac{x}{nS}\right)$$

where λ is the wavelength, n is the diffraction index of the grating substrate, x is a distance from a center of the detector, D is a diameter of an aperture and S is a distance between the aperture and an upper surface of the detector.

20. (previously presented) The detector according to claim 11, wherein the grating interval varies linearly from the center out towards the edges.

21. (currently amended) The detector according to claim 11, wherein the grating interval has values of approximately 2.5-3.0 micrometers at the central part of the detector and approximately 3.0-3.5 micrometers at the outer parts of the detector~~, where the higher values within both areas are related to each other and the lower values within both areas are related to each other~~.

22. (currently amended) A camera system for infrared radiation and comprising:

optics for focusing the infrared radiation;

an aperture for admitting the infrared radiation;

a cooling unit operative to cool the camera system; and

a quantum well based two-dimensional detector operative to receive the infrared radiation

via the aperture, the detector comprising a grating arrangement for diffraction of infrared radiation incident on the detector, the grating arrangement comprising a grating interval that varies from a central part of the detector out towards outer parts of the detector, such that the grating interval increases with increasing distance from the central part of the detector, wherein the grating interval is selected so as to diffract by 90° or less infrared radiation that passes through an edge of the aperture, and the grating interval is selected so as to diffract infrared radiation have an angle of incidence smaller the infrared radiation that passes through the edge of the aperture by values less the infrared radiation that passes through the edge of the aperture.

23. (currently amended) The camera system according to claim 22, wherein the infrared radiation ~~have~~ has an angle of incidence smaller the infrared radiation that passes through the edge of the aperture is diffracted by 85°-90°.

24. (previously presented) The camera system according to claim 22, wherein the infrared radiation falls on the detector at angles within a range of 0°-45° in relation to a normal to a surface of the detector.